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The Indianapolis Gas Company's Remodeled Offices and Show Rooms: "Model Kitchen" a Popular Feature.

[Prepared for the JOURNAL, by MR. PHILMER EVES, Sales' Agent.]

The illustrations published herewith, taken from photographs, show the attractive alterations and improvements in the remodeled offices of the Indianapolis Gas Company, Majestic Building, 37–49 South Pennsylvania street, Indianapolis, Ind.

The bookkeeping department has been transferred from the first to the second floor, the entire main floor being devoted to the display of gas appliances, cashiers' counters, contract and complaint department, office of the sales' agent and "model kitchen."

The counters throughout are built of Olivo-Vermont marble, with tops made of Carrara, white-glass, 30 inches wide. The woodwork is finished in early English, while the walls are decorated in dull green, with an artistic border under the ceilings. The ceiling panels are decorated in cream and gold, tinted in darker relief shades.

The lighting arrangements comprise 16 Welsbach, "Intenso" gas arcs on the ceiling at a height of 11 feet 6 inches above the floor to the bottom of the domes, with Welsbach reflex lamps on the pillar brackets.

The model kitchen, one of the most attractive and popular features of the great household, has been visited and admired by thousands of the Company's patrons. It is located in the rear of the main floor office and display room. The walls of the kitchen are daintily decorated in white enamel, and the entire furnishings are white to harmonize with the surroundings. Two French windows fitted with stained glass, opening with side-and-drop panels, are adorned with artificial geraniums. The gas range has white enamel and white tile, with nickel trimmings, and contains a broiler, baking oven, roasting oven, three warming ovens, pipe and star burners under a polished steel, flush top. A McDougall kitchen cabinet, equipped with dainty china and cooking utensils, and a white enamel refrigerator, comprise the arrangements on the side to left of the range. Along the opposite wall stands a white porcelain sink, also six oak chairs, painted white, specially designed for this kitchen.

An entirely new feature of the kitchen, greatly appreciated by the women patrons of the Company, is a complete library of cook books and other literature pertaining to kitchen affairs. The library cabinet is also supplied with food magazines, free recipes, dictionary of menu terms, etc. The ladies are invited to use the library at any time so that they may get the best service from their gas cooking appliances and become familiar with the most modern methods of cooking. One of the lady demonstrators of the Company is in constant attendance in the kitchen to answer questions and help gas consumers to secure efficiency and economy in the use of their gas ranges. As one of the newspaper advertisements of the Company states, "Men are bringing their wives, wives their husbands, mothers their daughters, and teachers their girl pupils to see this beautiful and ideal department." [1]

Another feature on the main floor is the office of the gas appliance department, with its handsome oak cupboards for the storage of the showroom stock of smaller gas appliances, which are placed there wrapped and ready for sale in the showroom. The string used by the Company to tie its small packages is printed with the Company's advertisements, such as, "Keep the Indianapolis Gas Company on your string for good gas service."

The contract and complaint department is equipped with card index files, and there is a cozy, railed-off room behind the counter for the convenience of gas consumers having complaints to make, or real or imaginary grievances against the Gas Company's service.

The Chief Clerk's office is located between the contract and complaint department and cash counters.

The front portion of the main floor is taken up with an exhibit of gas ranges, water heaters and other appliances, and here each month some gas appliance is specialized and demonstrated.

At 37 South Pennsylvania street, two doors from the main office, the entire room is occupied by a comprehensive display of gas appliances used in the industries. These are all connected, ready to be operated at any time, so that the salesmen of the Company can bring their prospective customers to see the gas engines, forges, furnaces, etc., at work.

Between this room and the main office, the room at 45 South Pennsylvania street has been leased to the Welsbach Company. There this progressive Company has one of the most elaborate displays of lighting appliances in the country. Its exhibition room, 93 feet long by 20 feet 3 inches in width, is artistically decorated to harmonize with the dark oak furnishings.

1. The "Model Kitchen" was planned by Mr. Philmer Eves.—EDS.

Main Offices.

Welsbach Company's Department.

On the second floor are the offices of the Vice-President and General Manager, Carl H. Graf. These are beautifully decorated and furnished in mahogany. The office of the secretary, the general offices for the bookkeepers and clerical force, and a room specially fitted up for the Company's salesmen are also on the second floor.

These rooms are equipped with the "indirect" and Welsbach "reflex" gas lighting systems. The chandeliers are placed at intervals of 16 feet 6 inches, reflecting the softened light from the ceilings. This new plan of illumination, originating with Mr. Graf, has demonstrated that there is absolutely an ample and uniform illumination without shadows.

The fixtures adopted for this new indirect lighting system in the general offices are, the No. 1032 Welsbach Reflexoliers, equipped with the Welsbach No. 71 burners, No. 196 Junior J. mantles, No. 310 chimneys, and No. 505 silver glass reflectors. The ceiling of the office is 12 feet, and the fixtures are hung so that the center of the mantle is 41 inches from the ceiling.

The room for the outdoor salesmen is furnished with a kitchen, gas range, and cooking utensils for the use of the men, and here the Company is giving a course of cooking instruction to its employees and their relatives.

The architects, Messrs. D. A. Bohlen & Son, who have carried out these elaborate changes, are of Indianapolis.

[For balance of illustrations see pages 83 and 84.]

(Continued from page 67.)

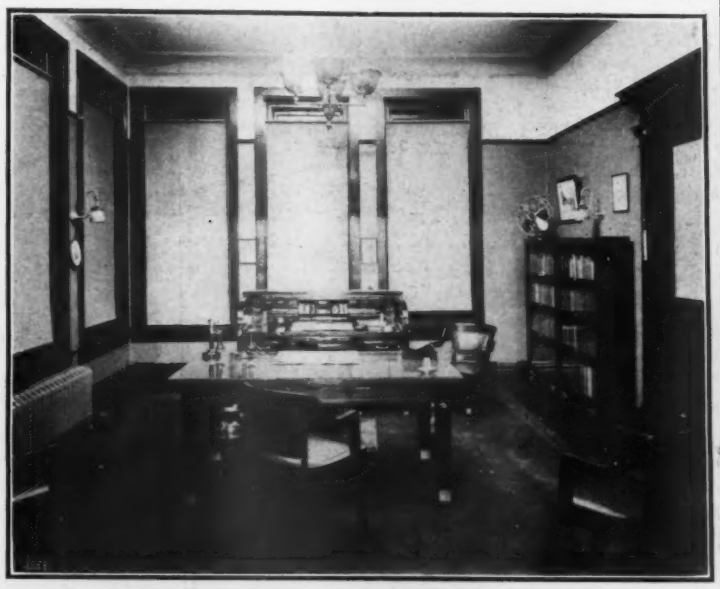
Liability of Gas Companies for Injuries Resulting from Escape of Gas.

[Prepared for the JOURNAL by MR. JOHN EDSON BRADY.]

Duty to Inspect Piping before Turning on Gas.—The question of the obligation of a gas company to inspect the pipes in a building before permitting the gas to be turned on came up in the case of "Schmeer *v.* The Gas Light Company, of Syracuse;" 147 N. Y., 529. It appeared that the Company allowed gas to be turned on in a 3-story building occupied by different tenants, with pipes arranged so that each could be supplied through a different meter. The pipes in one of the rooms, occupied by persons who did not use gas, were left uncapped, and a serious explosion occurred when someone undertook to locate the leak with a candle. The question was whether

Office of Vice-President and General Manag r, Carl H. Graf.

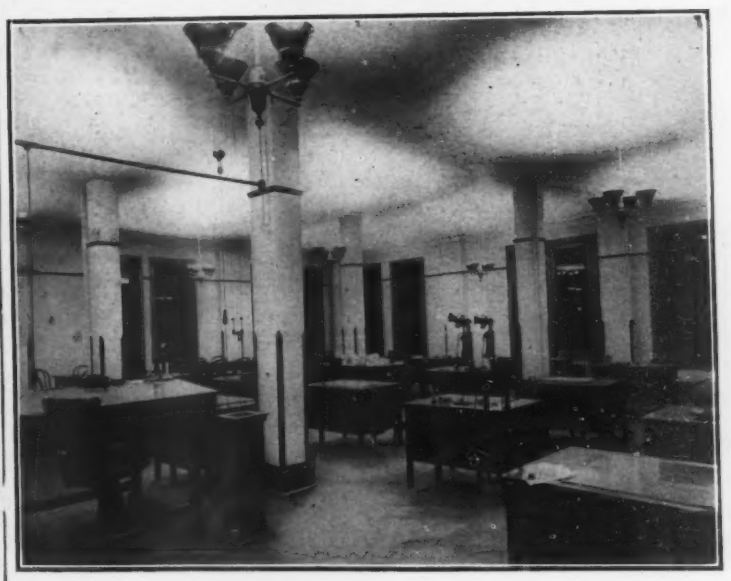
Office of Sales Agent, Philmer Eves.



Office of Carl H. Graf, Vice-President and General Manager. Night View, Showing Effect of the "Indirect" System of Lighting by Gas.

Bookkeeping Department, Showing "Indirect" Lighting System.

Main Office, Illuminated with "Intenso" Gas Arcs: (Night View.)



Clerical Department. Illumination with Reflected Welsbach Lights. (Night View.)

there was any negligent failure on the part of the defendant Company to do what was reasonably prudent for the safety of the occupants of the house. With reference to this the court said: "The defendant urges that it would be most unreasonable to impose upon it the duty of knowing when gas was to be turned on in every building in the city where it was to be used, and to inspect the piping immediately prior to the turning on of the gas. It is asserted that such a duty would be almost impossible of performance, and that every

Gas Appliance Order Department.

Model Kitchen, North View.

Salesmen's Room, 2d Floor, Showing Indirect Lighting System.

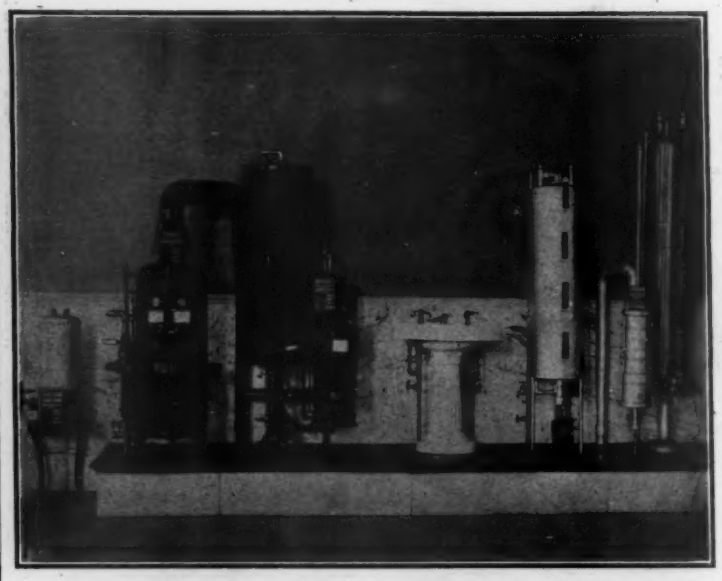
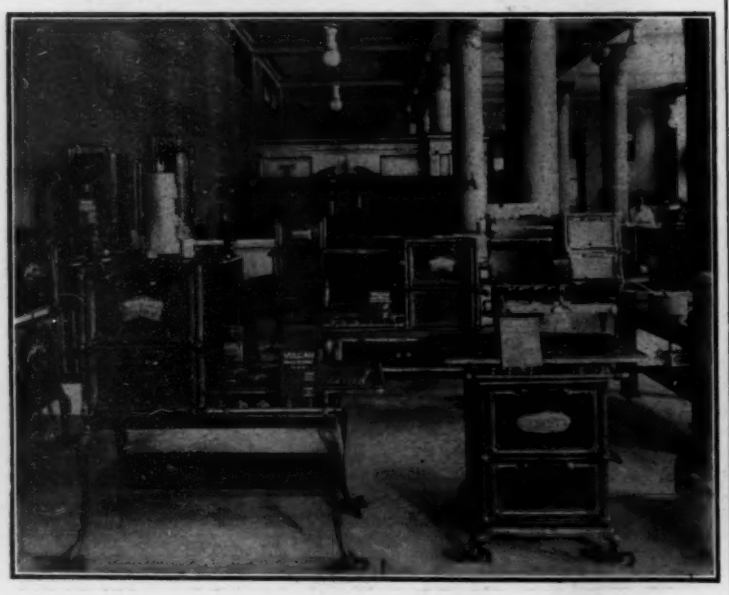


Exhibit of Gas Water Heaters, Connected Ready for Operation.



Gas Appliance Display, Main Floor.

Exhibit of Gas Appliances, Industrial Department.

reasonable requirement is met by the obligation to inspect upon notice and request. * * * We do not see the impracticability of inspection as is obliged by the defendant, or its great expense. If, when a meter should be applied for in an apartment house like this, in order to take the defendant's gas, the defendant should at the time of sending it, send a proper inspector to inspect the piping, there would not be much difficulty in that case. The inspection here spoken of would not include the examination of pipes under floors or

covered by plastering; no ripping up of work already done, in the way of flooring and of lath and plastering, could reasonably be required. A fair examination of the piping which was disclosed and the ends of tubes coming out into the open spaces through which the gas might penetrate into other quarters than where it was applied for, would certainly be all that could ever be reasonably called for. We do not even say that this must be done as a legal proposition. It is a question for the jury upon the issue of negligence. The suggestion that the Company had no right to enter upon the premises for that purpose, we do not regard as well founded. It might properly refuse to permit the gas to be turned on in a case of separate stores and flats like that here presented, until some reasonable examination of the piping had been made in the other portions of the building, where gas had not been applied for, such as would lead to the belief that the piping in that other portion was in proper condition. We do not say that the Company was bound, as matter of law, to make this examination by its own agents, or that a failure to make it, and a reliance on the certificate implied from the delivery of plans was negligence, but we say that, whether such reliance was or was not negligent, was, under the circumstances of this case, a matter for the jury to decide. Having adopted the practice of relying upon the plans when delivered as equivalent to a certificate that the piping was in good condition, and thereafter permitting anyone to turn on the gas, the propriety of that custom must go to the jury upon the question of negligence."

Company not Required to Inspect Piping After It Is Once Put in Proper Condition.—In "Schmeer *v.* The Gas Light Company of Syracure;" 147, N. Y., 529, it was said: "Nor do we assume to say that, when once the piping has been fairly and properly examined previous to turning on the gas, thereafter there is a continuing liability on the part of the Company to see to it that such piping is kept in proper condition. As the Company has no control over the piping, does not put it in, and is not consulted about it, the principle upon which it might be held liable, in cases of this character at the time of the first delivery of gas, if no precaution were taken at all, is simply that it would leave the right to refuse to turn on or permit others to turn on, the gas for the supply of the applicants until properly assured of the condition of the piping in other portions of the building. Having become assured of it, and the gas being on, it would not seem that the Company ought further to be regarded as liable for the continuous good condition of the piping. Here we may justly say that to impose such a liability would clearly be unreasonable. It would render necessary the examination at frequent intervals of all the buildings in the city in which gas was used. This would be so onerous as to be practically impossible of execution, because of the expense to the Company. The law ought not to, and does not, exact an unreasonable amount of care from anyone."

Duty of Company to Act Immediately Upon Receiving Notice of Leak.

Gas companies, as has been shown, have frequently been held liable for the loss caused by an explosion of gas in cases where the company was unaware of the fact that there was a leakage, the ground being that the company had failed in its obligation to maintain a proper system of inspection. There are many instances of accidents which have occurred after the company has received actual notice that there is a leakage in its pipes. There is all the more reason why the company should be held liable in cases of this class; and the decisions show that, when it appears from the facts that the company was notified that gas is escaping, and, in spite of such notification, fails to make the necessary repairs in time to prevent accident, the company is invariably held in damages. The trouble is usually not that the company does not act upon the notice, but that it sends out an incompetent workman to make the repairs. The company might as well ignore the notice as to send a man not capable of doing the work properly, for the company is liable for the negligence of its servants.

The plaintiff in a Maryland case, "Consolidated Gas Company of Baltimore City *v.* Crocker;" 82 Md., 113 Att. Rep., 423, conducted a saloon which was lighted by gas furnished by the defendant Company. When the plaintiff moved into the premises he noticed a strong odor of gas in the cellar and notified the Company. An employee was sent to put in a new meter and take out the old one, as was customary when premises changed hands. Upon having his attention called to the smell of escaping gas the employee said that the change of meters would probably result in a disappearance of the odor. The odor, however, did not cease and the flow of gas into the cellar continued in such quantities that it was necessary to keep the door leading to the cellar closed. There was evidence tending to show that the gas escaped from a main which ran under and parallel to the sidewalk. There was a gasoline stove in the cellar and one of the plaintiff's servants took a lighted lamp and entered the cellar for the purpose of using the stove at a time when the cellar had been closed for 24 hours. She had some trouble in getting the stove to burn and after she had been in the cellar several minutes she noticed a bluish flame in the direction of the steps leading from the cellar to the floor above, where two gas jets were burning. Immediately an explosion occurred which damaged the building considerably. The lamp which the servant carried into the cellar was not injured by the explosion.

It was held that it was negligent on the part of the defendant Company to allow gas to escape from its pipes after being notified of the existence of the leak. "It cannot be doubted," said the court, "if the evidence adduced by the plaintiff be credited, that the least diligence or attendance on the part of the plaintiff's employees would have appraised them of the escape of gas into the street and through the walls of the plaintiff's house. The defendant's employee had been notified of the escape of gas. He had promised to remedy it when the new meter should be placed in position, but he failed to search for or discover whence, in fact, the leaking gas proceeded. He seems to have assumed that the change in meter would obviate the trouble, but he made no search, nor did the other employee who put the new meter in position endeavor to locate the break. It was clearly negligence on the part of these employees not to make some effort to discover the location of the defect which caused the leak. They were aware of the leak and that was notice to the Company. It then became obligatory upon the Company to use reasonable efforts in a reasonable time to ascertain where the leak was, and to stop it. If, instead of doing this, the Company's employees chose to assume that a change in the meter would remedy the defect, though confessedly they did not know whether it would or not, they obviously did not discharge the duty incumbent upon them, and their negligence in this particular was the negligence of the Company. When a gas Company is made aware, as in this case, that large quantities of gas are escaping into a building, it becomes its plain duty to use reasonable diligence to discover and stop the leak. It cannot discharge that duty by assuming without knowing that the leak proceeds from one source, when, in fact, it proceeds from a totally different source which could have been discovered by proper inspection. This rule requires nothing unreasonable; it does not require that the Company shall keep up a constant inspection all along its lines without reference to the existence or non-existence of a probable cause for the occurrence of leaks or escape of gas, but it does require that, when notice of the existence of a leak has been given to a Company, the Company shall use reasonable care to discover the cause of the leak and appropriate means to remedy it."

This doctrine is not in conflict with the principle laid down in "Hutchinson *v.* Boston Gas Company;" 122 Mass., 219. There the escape of gas complained of was the result of an overwhelming calamity, that had laid a great part of the city of Boston in ashes, fractured and severed the Company's pipes in so many places that all the force it could employ was insufficient to guard against all possible consequences of the escape of gas without at once shutting off the supply of gas from the whole city, and this it was excused from doing on the ground that more mischief would result from such a course that was likely to result from a failure to shut off the gas.

On the night of November 25, 1900, a house, known as number 517 West Lombard street, Baltimore, Md., was badly damaged by an explosion of gas. The house was unoccupied at the time and had been vacant for a considerable period. About a month previous to the explosion the gas meter had been removed from the premises by the employees of the Gas Company, at the request of the owner, and the flow of gas was shut off by closing a stop cock in the riser that joined the service pipe to the meter. After the explosion it was discovered that the riser had been wrenched from the service pipe and, in the absence of any evidence tending to show how and when it had been done, it was assumed that a thief had entered the premises and torn it away for the purpose of securing the brass stop cock thereto attached. Several days before the explosion the occupants of 519, the house next door, becoming alarmed by the strong odor of gas, notified the Company and the Company sent a man to investigate. The inspector spent some time searching for the leak and finally abandoned the search without locating the trouble. He told the occupants to notify the Company if the odor became more manifest. Notwith-

standing the failure of the inspector to find the leak, the trouble continued and a policeman was appealed to to see if he could remedy the situation.

He procured a lighted candle and started up an alley on one side of the house. When he reached the point where the pipe which supplied gas to the upper floors was carried through the outer wall, and up its exterior face from the basement to the story above, he paused to take a look through the hole through which the pipe was run. Instantly there was an explosion which caused extensive damage.

The question was whether or not the Company was guilty of negligence. Or, in other words, when the Company confessedly received notice that there was a serious leak in the vicinity of the house that was afterwards damaged, did it use reasonable diligence to locate it? If it did not, then it was guilty of negligence. This it was held was a question for the determination of the jury. It was for that body to say whether or not due diligence had been used in the attempt to locate the leak. The jury held that the means adopted by the Company to find and fix the leak were insufficient to show freedom from negligence. The Company was accordingly held liable for the damage done. "Consolidated Gas Company, of Baltimore *v.* Getty;" 96 Md., 683, 54 Atl. Rep., 660.

[Proceedings, as forwarded by the Secretary.]

PROCEEDINGS, TENTH ANNUAL CONVENTION, WISCONSIN GAS ASSOCIATION.

Held in Hotel Pfister, Milwaukee, Wis., May 17 and 18.

The meeting was called to order by President Winslow, at 2 P.M. of the 17th.

ROLL CALL

disclose the presence of the following:

Active.

Allison, G.	Gregg, G. F.	Penniston, C. D.
Billings, W. E.	Haase, E.	Powell, D. A.
Brown, R. B.	Harman, H.	Pratt, E. G.
Buck, H. M.	Herrmann, R.	Pulliam, I. P.
Butterworth, W. C.	Humphry, H. M.	Ruenzel, P. F.
Callender, D. E.	Johonott, H. W.	Schaper, H. C.
Comstock, C. A.	Jones, W.	Sessions, R. H.
Cornish, R. C.	Kelsey, F. P.	Spiering, R.
Corscot, J.	Keuper, F. E.	Stroebel, D. G.
Cowdery, E. G.	Kifer, E. H.	Taylor, Jr., J. D.
Cowles, P. E.	Kimball, R. N.	Walker, J. H.
Cross, F. L.	Kurtz, A.	Wiggers, C. H.
Dickey, E. D. V.	Luebkeman, C.	Wilke, A. O.
Easterly, H. W.	Lyons, B. F.	Winslow, W. H.
Eastman, J. P.	McCorkindale, W. J.	Wortendyke, I. F.
Gilbertson, M. A.	Palmer, H. L.	Young, R.
Glass, S. J.	Patten, J. A.	

Associate.

Asendorf, C. F.	Goldman, J.	Parker, J. F.
Blinks, W. M.	Grant, T. E.	Potter, J. L.
Borchert, H.	Guitteau, W. S.	Riesing, B. G.
Bowman, W. G.	Harr, D. C.	Sayer, J. D.
Brennan, J. S.	Holderness, J. C.	Schall, H. D.
Chisholm, C. T.	Hutchinson, W. P.	Shannon, C. A.
Clarke, J. C.	Kellum, B. J.	Shirra, J. C.
Cressler, G. H.	Leaky, N. G.	Snooks, D. P.
Curtis, F. C.	Martin, E. B.	Wickham, L
Dahl, A. S.	Merke, R.	Zwisler, A. L.

On motion, the reading of the minutes of last meeting was omitted.

The Report of the Executive Committee,

was then read by the Secretary, as follows:

The Executive Committee reports having appointed the following gentlemen on the Committee to place in nomination officers for the ensuing year: Messrs. W. J. McCorkindale, J. D. Taylor, Jr., B. F. Lyons, Guy F. Gregg and J. P. Eastman. The Committee is to report to-morrow, in time to give the meeting an opportunity to vote on the nominees. Your Committee also reports in favor of election to membership of the following

Applicants.

Active.

D.G.Stroeble, Fort Atkinson, Wis.	H. W. Easterly, Fond du Lac, Wis.
E. H. Kifer, Madison, Wis.	W.C.Butterworth, Platteville, Wis.
G. Allison, Milwaukee, Wis.	R. H. Ressions, Duluth, Minn.
J. P. Pulliam, Fond du Lac, Wis.	P. F. Ruenzel, Waukesha, Wis.
P. E. Cowles, Fond du Lac, Wis.	

Associate.

J. L. Potter, Milwaukee, Wis.	J. C. Holderness, Rockford, Ills.
C. McCullough, Milwaukee, Wis.	G. W. Kaiser, Cnicago, Ill.
W. L. Gregg, Milwaukee, Wis.	A. S. Dahl, Milwaukee, Wis.
B. F. Parkhill, Milwaukee, Wis.	B. G. Riesing, Milwaukee, Wis.
M. J. Massino, Milwaukee, Wis.	J. D. Sayer, New York City.
C. A. Shannon, Milwaukee, Wis.	W. S. Guitteau, Detroit, Mich.
J. S. Brennan, Milwaukee, Wis.	W. G. Bowman, Chicago, Ill.
L. C. Huckins, Chicago, Ills.	C. E. Pool, Cincinnati, O.
F. E. Grant, Kalamazoo, Mich.	W. M. Blinks, Kalamazoo, Mich.
W. W. Sayers, Chicago, Ills.	J. C. Clarke, Bridgeport, Conn.
R. Merke, Cleveland, O.	F. B. Mueller, Decatur, Ill.

Respectfully submitted,

W. H. Windslow, Robert Young, R. B. Brown, } Executive Committee.

Election of New Members.

The Secretary—There are 31 new members.

The President—The Chair will entertain a motion to the effect that the Secretary be requested to cast a ballot electing these applicants as active and associate members.

On motion of Mr. J. H. Walker (seconded) and adopted, the Secretary was directed to cast the ballot of the Association in favor of the nominees. This he did, and following his report the President welcomed the new members and invited them to share with the old in the proceedings of the sessions.

The Secretary then read his annual

Report as Treasurer and Secretary.

As Treasurer, Mr. Harman reported a cash balance to credit, at beginning of year, amounting to $118.80, a receipt for the twelve-month of $1,256.28, a total disbursement of $728.14, and a balance in hand of $646.94.

As Secretary, Mr. Harman reported that one member (Mr. C. F. Greim) died during the year, and that 5 had resigned, leaving the membership list (as of May 11th) total 153, of whom 100 were in the Active class.

The President—Asked the pleasure of the Association in respect of the reports, therefrom (on motion, properly seconded and put) the reports were ordered received and filed.

An Explanation.

The President—Gentlemen, the next order of presumed business is an address by the President, but your President hasn't very much to say at this time, save he wishes to call attention to the fact that there are some bills pending before our Legislatures which should not be enacted into law, if we can prevent. One bill aims to take away from the Railroad Commission the power it now possesses to decide as to whether or not competing utilities should be ollowed. Of course, should that bill become a law it would make a farce of the existing Public Utility Law, although it might be a tragedy for some of us, and, while it hardly seems possible that the Legislature would emasculate its own law to that extent, yet it behooves us all to do what we can. We are fortunate at Superior in having, as one of our attorneys, ex-Senator Hudnall, who as you probably all know, is the father of the Public Utility Law, and he has written a very strong letter to your representatives, copies of which letter have been furnished to others and freely distributed. In that way we have tried to do what was possible. It is only natural that the Railroad Commission should be against this bill, since it seems that every reasonable person must be against it, because, economically speaking, it looks going back about 3 or 4 generations should that bill become a law. I would urge upon you gentlemen to take up the matter with your various representatives, and if any of you so desire I shall be glad to send copies of this letter of Mr. Hudnall's. Again, there is the matter of the Income Tax measure. Of coure, it is not a law in which we are as exclusively interested as in the other, but I think it is as fully injudicious, especially in the form that in which it is now before the Legislature. I also urge you to do everything in your power to secure changes which will bring it more in line with reason. I called upon Mr. Hudnall in this connection and we got up a letter to Mr. Ingram, Chairman of the Committee having the matter in charge, in which we called attention to several defects as these seemed in the bill. In the first place, it is radically wrong that corporate incomes should be considered in their entirety; that is, it appears fundamentally wrong that a person drawing an income, say, of $2,000, which is part of a large corporate income, should for that reason be taxed 5 or 6, or, as I understand possibly under this bill as it stands now, even 10 or 12 times as much as that same income

would be taxed if it stood alone. There are, of course, other defects. Let me say in addition that this meeting is supposed and intended to be an informal one. We have not very many papers, and if the meeting is to be a success it will be so because of free discussion, else there will not be a great deal of it. I urge all of you gentlemen to join freely in the discussion, especially in the instance of efficiency engineering, for that is something that is new and presumably one man's opinion at the present stage is as good as the next one's. It was thought best to take up that matter this afternoon, allowing the papers to go over until to-morrow. If we can get through it this afternoon, we will also take up those questions raised by the Racine decision In connection with this efficiency engineering I will ask the Secretary to read

A Letter from Mr. George Williams, of New York,

which is as follows:

Milwaukee, March 10, 1911.

Mr. W. H. Winslow, President, Wisconsin Gas Association, Milwaukee, Wis.—Your good letter of March 4th, to members of the Association, appeals to me as one of the most opportune and interesting steps taken in recent Gas Association work.

While not qualified to make engineering or operating suggestions, I can easily imagine that a great many of the suggestions made in the periodicals you mention could be adopted in the operation of any plant. In fact, your letter itself, if followed out, and these articles read, cannot fail to bring great benefit.

In new business work, which is about the only phase of the industry in which I have had any experience, I find that a good deal of managerial time is wasted by the duplication of work in looking after routine orders, many of which could be better performed by restricting the detail of their attention to one man.

The manager, even though he has an efficient order department, finds it easier to do many trifling things than to explain to his patrons that he has a department for that purpose, and thus train the public to look to special departments. Only restricted districts for solicitors and the maintenance of accurate data concerning consumer's equipment and location will save the new business department from a duplication of work.

Unless the solicitor gets into the habit of laying out his day's work in the morning, he will do considerable unnecessary traveling and waste time, thus making fewer honest calls.

System alone, though, will not make a successful salesman, neither will natural ability to sell; but both faculties combined, will.

Your convention may develop many valuable methods, but it will be of some importance as to how they are applied when the operator gets home. The men who will carry out these new attempts at higher efficiency should have it thoroughly explained to them that it is to their interest fully as much as their corporation's.

The first impulse of these men will be to resent what they consider new-fangled notions, and I would not advise a manager to attempt to force these new schemes until his men are just as anxious to make them a success as he is, and this is not impossible. Thanking you for your letter, and wishing yon a most successful meeting, I am,

Yours truly, Geo. Williams,

60 Wall street, New York city.

The President—Mr. Williams' attitude seems about the one we should take, in that it is a receptive one. I have noticed in a good many quarters a tendency to sweep this entire question of efficiency engineering aside as not being applicable to this, that or the other business. Of course, it has been largely developed in connection with shopwork, and there some of the greatest results seem to have been attained in the system of functional foremanship instead of departmental foremanship. Now, it is possible our organization is not such as can get that benefit, although I think I can see ways in which some modification would be helpful, especially with concerns that operate different utilities in the same place under the same management. I will ask Mr. Brown to start this discussion for us.

Mr. Brown—Mr. President, I am sure I am not prepared to speak on this very interesting subject, it being one over which no one who has operating organizations under his control can fail to be interested; but really I am not prepared to discuss it as applied to our work in detail. Some similar items to those mentioned in the letter just read must appeal to all of us. We are duplicating work in very many directions. Really, I have never felt that the elimination of such duplications is of sufficient dignity to be labelled "efficiency engineering." That is a thing that we ought to get to as a matter of common—well, it is "efficiency." It is increasing our efficiency by eliminating unnecessary steps and duplicated work, but the title of your subject is much more ambitious and a good deal broader. I think it aims more to increase the efficiency of each individual operation, and to lay out our work in such way that for each man's hour of time we can get more results. On that end of it I must say I haven't given enough time to it to be ready to talk to you. We are working on it all the time. We are all efficiency engineers, in a sense, yet perhaps not to the extent that we could be were we better informed. The articles now being published on this question in the engineering journals should be of interest to us all. However, I have not read all of them. Those I have read almost invariably give points and ideas that are new, and all I can add is I commend every one of these articles to gas men, particularly those in charge of the operating organizations, as things that they should take up as text books. One cannot fail in any one of these articles that have been printed in the last 2 years, and a great many of them have been printed, to get some ideas that would be applicable to your own work.

The President—Of course, it was hardly supposed that any one would come to this meeting ready to talk as an efficiency engineer. It appears, however, a growing, coming subject, so, of course, the only way to start a thing is to start it, and I thought we might have a preliminary discussion to arouse an interest in it, and perhaps get some good ideas from each other, thus preparing us to go into the question in the coming year more intelligently than would otherwise be possible. I hope that you gentlemen will each speak a few words on the subject. Perhaps no one here can throw a great deal of light on it; but we want suggestions from everybody. I would ask each speaker, as he arises, to mention his name for the benefit of the stenographer and everyone else.

Mr. Cornish—In the organization of the American Gas Company we found last year, by getting out a chart for each company—that is a chart of the organization of each company graphically—we were able to rearrange the different companies and the men working for them in such a way that we could, in some cases, cut down our operating cost materially, and at the same time get just as good results.

The President—Perhaps Mr. Cornish would give us some details as to that, a few specific instances.

Mr. Cornish—We formed a chart, starting in with the manager of the company, then radiating from the manager would be the various superintendents or assistant managers, whoever they happened to be, and radiating from those would be the various people under them. In some instances we found one man might be reporting through two or three people to the manager, where he should have reported direct to the latter, each one of these people, having then to make this report probably direct to the manager. We cut down the red tape of our business by studying these charts and re-organizing the companies.

The President—Mr. Lyons, will you give us a few words on the subject?

Mr. Lyons—I have not given the matter much thought, but it seems to me our aim should be to become efficiency engineers. Naturally, all of those interested in their organizations should lay out a comprehensive plan and attempt to work it through, however, not pursuing it to the detriment of the company simply with a view of adhering to the plan. As we go along we may perhaps find our plan a little bit faulty, but I think it is absolutely necessary for all of us to adopt some general ideas and attempt to carry them out. The suggestion of efficiency engineering as Mr. Brown has said, is simply a refinement of what we have attempted to do in the past, and requires just a little bit more thought and study than we have given it. It appears that most all of us are trying to work along those lines, but I think we should increase our efforts and watch for results. Do certain things and see whether they are accomplishing what we desire.

The President—Might we hear from Mr. Cowdery on the sub?ect?

Mr. Cowdery—I feel I came here to listen, not to talk. I really have not given the subject any serious thought for the purpose of talking about it, but I shall be very glad to listen to what may be brought out here, adding anything that occurs to me as the discussion goes on. I do not believe I will be able to say very much to you at the present moment.

The President—Let me ask if anyone present ever called, in recent years, anyone not necessarily naming himself or themselves efficiency engineers, some expert to make a study; and, if so, whether any good

(*Continued on page* 90.)

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NEW YORK, MONDAY, AUGUST 7, 1911.

[Official Notice.]

Joint Gas Convention, Panama-Pacific Exposition.

Pacific Coast Gas Association,
Office of the Secretary,
445 Sutter St., San Francisco, Cal.,
July 28, 1911.

To the Committee on Joint Gas Convention, San Francisco, California, 1915: At the Eighteenth Annual Convention of the Pacific Coast Gas Association, and on motion duly made and seconded, a resolution was adopted to the effect that the Pacific Coast Gas Association invite all Gas Associations throughout the United States to hold a joint convention in San Francisco during the Panama-Pacific Exposition, in the year 1915, with a view of making it the greatest congress of gas men that has ever been convened. In compliance with such resolution, President Frank A. Leach, Jr., of Oakland, Cal., was instructed to name a committee to undertake the same, and has selected the following members of the Pacific Coast Gas Association to act upon such a Committee:

Henry L. Doherty, Chairman, 60 Wall street, New York city.

Thos. J. Cunningham, Editor American Gas Light Journal, 42 Pine street, New York city.

Lucius S. Bigelow, President "Light Publishing Co.," Buffalo, N. Y.

E. C. Brown, publisher, "Progressive Age," 280 Broadway, New York city.

John F. Parker, Sales Manager Eclipse Gas Stove Co., Rockford Ills.

A. C. Humphreys, President Stevens Institute of Technology, 165 Broadway, New York city.

Walton Clark, General Superintendent United Gas Improvement Co., Broad and Arch streets, Philadelphia, Pa.

Alphonse Mason, Welsbach Company, Gloucester, N. J.

Henry H. Hyde, Manager Tacoma Gas Light Co., Tacoma, Wash.

Leon P. Lowe, 626 Pacific Building, San Francisco, Cal.

As the site for the Panama-Pacific Exposition has now been duly selected, and San Francisco will at that time have a civic center with a large Auditorium building, it will at once become known throughout the world as the "Convention City." With this in view, it is sincerely hoped that the Committee will be able to take up the subject in a general way at once, in order that they may be able to make a preliminary report as to progress, at our Nineteenth Annual Convention, which will convene at Oakland, Cal., September 19th, 1911.

The Panama-Pacific Exposition will undoubtedly be the greatest of its kind the world has ever seen, and San Francisco, having already made a reputation for itself in doing that which it undertakes to do in a most befitting manner, it is hoped that such work as this Committee can accomplish will bear fruit, and in the end be the means of bringing together all members of the profession in what has already been termed "The Greatest Congress of Gas Men that has ever convened."

Very truly yours,
John A. Britton, Secy.

[Official Notice.]

Wrinkle Department, American Gas Institute.

Wrinkle Department, American Gas Institute,
Office of Editor,
Denver, Col., July 5, 1911.

To the Members, American Gas Institute: The Editor of the Wrinkle Department, believing that the members of the Institute, in selecting him to direct this important division of its affairs, were also alive to the necessity of aiding him in the routine work connected therewith, takes occasion to ask now for this assistance. The meeting time is not so far from to-day that inaction will be unimportant. He, therefore, invites, in fact, solicits, suggestions from the members as to how this work may be best carried on, and hopes—believes—that valuable as the contributions to the department have been, the scope thereof may be still further enlarged. He will gladly receive matter related to any wrinkle that has been smoothed out in the narrator's experience; and those interested need not think it at all fundamental that the recital of their experiences should be co-related to higher mathematics, to abstruse calculations, or to the revealing of something absolutely new. Any matter describing a new, or seemingly new, way of getting over an old difficulty, is acceptable; yes, is welcome. Send in your description in your own language, and if the result may need of "touching it up," that is why the Editor is on the job. Whenever illustrations are to accompany the text, see to it that the drawings, sketches or photographs are in black and white. Get your story in shape and forward the same as soon as possible to

Gas and Electric Building, A. F. Traver, Editor.
Denver, Col.

[Official Notice.]

Experience Department, Pacific Coast Gas Association.

Pacific Coast Gas Association,
Office of Experience Editor,
San Jose, Cal., June 24, 1911.

To the Members: The Nineteenth Annual Convention of the Pacific Coast Gas Association will be held in Oakland, September 19, 20 and 21. The Experience Editor of the Association is in despair. Cast him a line; come to his rescue, for he needs help. To the notices sent out by the Secretary, few have replied.

We know that every gas man has had at least one experience during the last year that would be of interest to us all. Will you kindly respond at once? We know you are busy; gas men always are. And busy men have many experiences worth telling.

Sincerely yours, John D. Kuster,
48 E. San Antonio street. Experience Editor.

BRIEFLY TOLD.

CURRENT MENTION.

The Illuminating Engineering Society is to hold its annual convention in Chicago on September 25, 26 and 27. This society holds monthly section meetings in New York, Boston, Philadelphia and Chicago, and this is the first annual meeting to be held in the last named. About one-third of the membership is connected with the gas industry and the high order of the papers presented on this phase of lighting will undoubtedly be equalled if not surpassed at this meeting. It is hoped that the gas men will avail themselves of this opportunity to aid in continuing the standing of their illuminant by their attendance and discussion.

In the contention that arose over the absurdly low selling rate that was prescribed for the Des Moines (Ia.) Company by the Des Moines

authorities, much interesting testimony has been adduced, and in due time (but not before a finality is reached in the case) that history will be published. Meanwhile, several estimators were retained—some on behalf of the city, whose reputation as gas experts is wholly based on their capacity to harass gas interests, others, on behalf of the Company, whose reputation as experts in the gas line is international—to value the Company's money investments on a right basis. Two of the latter are Messrs. Henry I. Lea and William A. Baehr. After a thorough investigation of the whole premises these gentlemen—each worked wholly independent of the other—handed in estimates the difference in the figures thereof being 2.30 per cent. This, too, on a valuation in total of 3.5 millions of dollars.

THE Gas Machinery Company, of Cleveland, O., has been awarded the contract for installing new water gas apparatus, complete, in the works of the Miami (Fla) Gas Company. The contract not only includes the set, but also a tar extractor, exhauster, purifiers, boiler, etc. Construction work on this outfit will be gone on with at once.

MESSRS. STONE & WEBSTER have exercised the option held by them to purchase the properties of the Keokuk Coke and Gas Company, the Hamilton Light and Power Company and the Keokuk and Western Interurban Railway, all of Keokuk, Ia. Mr. A. D. Ayres was named a Director in all 3 Companies, and he was also appointed to the position of Local Manager, with Mr. E. L. Patterson as Assistant Local Manager. Mr. J. A. Trawick will act as District Manager.

THE Dawes corporation has applied to the authorities of Alexandria, Ind., for the right to supply gas of the artificial sort in that place. Mr. C. M. Hooven, and associates, of the Anderson Gas Company applied for such right some months ago.

SLEEPY, old College Point, Long Island, the home of the clam bake and the same of many a merry whirl, is rapidly awakening from its lethargy. The College Point Committee, having connected the old Sound town to the rest of the world by means of a trolley line, now asks that its streets be better lighted; also its lanes and byways. And these plaints will surely be furthered by the clever advocacy of Mr. Spear and his associates in the Queens Borough Company.

"OLD TIMER" sends this from Pittsfield, Mass., under date of the 1st inst.: "Last week, at the annual meeting of the Pittsfield Coal Gas Company, Mr. W. I. Adam was elected President, to succeed his father, Mr. Robert W. Adam, who for over 50 years was the Company's Chief Executive. Mr. Norman Hull was elected to the Board, to succeed his father, the late Mr. J. W. Hull. Other officers chosen were: Treasurer, H. A. Dunbar; Manager, H. C. Craft; Directors, W. L. Adam, Geo. H. Tucker, W. C. Backus and T. F. Plunkett. A semi-annual dividend of 3 per cent. was declared. The annual reports showed the following: Meters, 6,522, an increase of 900; increase in output, equals 13.7 per cent.; gas appliances in use, 4,809; increase in main mileage, 6 –total, 60 miles; gas arcs, 1,103 –increase, 269; average candle power, 18.6. The general outlook is excellent.

SUPT. J. A. BOWERS, of the Fulton (N. Y.) Gas Company, reports a remarkable gain in new business, 203 new meters having been hooked up in the 6 weeks ended July 24. The demand for gas ranges, too, in the same time is also a record one.

MR. DUEL has been appointed Manager of the Amherst (Mass.) Gas Company, vice Mr. David Barry, who tendered his resignation to enable him to enter the service of a Boston concern.

WITH exceeding satisfaction we report the convalesence of Mr. John E. Connelley, Publicity Agent of the Denver (Col.) Gas and Electric Company, whose long illness more than once threatened his life tenure. He will be back at his desk by the 1st prox., completely restored to his old-time vigor, the interim having been spent in rusticating.

MR. WILLIAM H. NEWHOUSE, for a long time the competent and observing Purchasing Agent of the United Gas and Electric Company, of New Albany, Ind., has resigned from its service to engage in business on personal account. His line will be coal at wholesale, and the firm's name is that of the Yager & Newhouse Coal Company.

MR. E. C. WESTON has been appointed Superintendent of the Middletown (Conn.) Gas Company, vice Mr. C. D. Clark. Mr. Clark remains with the Company, but his health has latterly been so disturbed as to preclude him from activities of the sort incident to the post of Superintendent.

THE Massachusetts Board of Gas and Electric Light Commissioners has approved the petition of the Worcester (Mass.) Gas Light Company for the right to increase its capital stock in the sum of $200,000.

Correspondence.

[The JOURNAL is not responsible for the opinions expressed by correspondents.]

Give the South a Show!

BLUEFIELDS, W. VA., August 1, 1911.

Dear JOURNAL: The question as to the advisability of holding a gas show in the South was recently disposed of by a manufacturer of lighting appliances in the statement that a city, say, of 150,000 people, would have a population of whites numbering 75,000, and that the gas company would sell to about half of these, so that, as a business proposition, a southern city with a population of 150,000 was equal to a northern city of 35,000. Two cities were named during the discussion, and here are some of the actual figures:

	South.	North.
Consumers per 100 population.....	12.74	11.37
Sales per capita	4,700	2,515
Population per gas arc..... ...	93	164

If anyone thinks the South is out of the running, come down and see.

Yours truly, JOHN GASSAWAY.

Why Not Say Something Yourself?

KANKAKEE, ILLS., August 1, 1911.

Dear JOURNAL: It appears to your correspondent that the JOURNAL should say something more on individual account than it does. You surely have sufficient cause to exclaim in the vernacular of the day, "That's Us!" Here, for instance, is a reminder (your issue for July 31) of the great diversity of the interest in the gas business, partially exemplified by the scope of the articles and papers in that issue. The engineering end is represented by two papers, showing methods of economy in works' practice. The new business field, by articles on fire protection, hints to salesmen, and the relation of the new business department to the company. Legal opinions and ventilation will appeal more strongly to the managers, and the correspondence from England should prove interesting to all. The age of specialization is becoming more and more in evidence in this as in other industries, and the one man plant is confined to a greater extent every year to the smallest in size, and that through necessity.

Yours truly, B. A. MEEKER.

Some Unloading Costs.

BY MR. W. H. MATLACK.

The following cost data, as gathered in 1909, may be of interest to your readers: The foreman on the work was receiving 27½ cents per hour; the laborers receive 20 cents per hour.

No. 1. Six men and foreman in 10 hours unloaded from car thirty-one 24-inch pipe, at a total cost of $14.75; or .4824 cents per length.

No. 2. Six men and foreman in 6 hours unloaded from car, and stacked 50 feet from it, fifty 10 inch pipe at a cost of $8.85; or .177 cents per length.

No. 3. Six men and foreman in 2 hours unloaded from car nine 24-inch pipe, at a total cost of $2.95; or .3744 cents per length.

No. 4. Sixteen men in 1½ hours unloaded from car, and stacked in a pile 75 feet away, fifty 4-inch pipe, at a total cost of $4.80; or .0906 cents per length.

No. 5. Sixteen men in 1½ hours unloaded from car, and stacked in a pile 50 feet away, thirty 10-inch pipe, at a total cost of $4.80 or 16 cents per length.

No. 6. Sixteen men in 2½ hours loaded from car, and stacked in a pile 75 feet away, thirty-two 16-inch pipe, at a total cost of $8; or 25 cents per length.

The pipe was hoisted by hand to the sides of the car, where ropes were placed around each end, and before letting it down on the skids. In this way all pipe reached the ground in good shape. The following "Costs" were gathered during severe weather when all cement had to be stored at once in a dry storage shed:

"February 6th, '09; unloaded 600 bags (150 bbls.) cement from car, and carried 100 feet to storage shed, where it was stacked, at a total cost of $3.94; or 6 cents per bag. The same day a car was placed alongside shed and unloaded, by skidding from the car to the shed window. In this way 600 bags were unloaded and stacked, at a total cost of $1.05; or .0174 cents per bag."

No. 7. May 23d, 1908: Twenty-five men and foreman, in 9 hours, opened a ditch (3 feet by 16 inches), laid 52 lengths of 6-inch and 29 lenghts of 4-inch cast iron pipe, at a total cost of $47,475; or .586 cents per length; or .0488 cents per foot.

No. 8. December 1st, 1908: Twelve men, in 8 hours, laid and caulked one hundred and thirty-one 12-inch pipe, at a total cost of $23.87, including foreman; or 18 cents per joint. The foreman was receiving $3 per 8 hours; 8 of the men 22 cents per hour; 4 men 32 cents per hour.

No. 9. September 18th, 1909: Two men, in 8 hours, caulked and capped twenty five 10-inch and twenty-five 12-inch joints at a total cost of $4.16; or .08032 cents per joint.

The same day 6 men, in 5 hours, laid twenty-six 10-inch and twenty-six 12-inch pipe, at a total cost of $7.50; or .012 cents per foot, including foreman's time.

(*Continued from page* 87.)

was so derived. One of the first things that struck me as to this matter was that this efficiency engineering was really quite similar to that which is going on with all the syndicates; that is, fundamentally, it is the substitution—not the substitution exactly perhaps, but rather the supplementing of a line organization by a staff organization. Of course, the syndicates have the bright men not attached to any one plant, who by going around, and from their very detachment, are able to see things that a man whose nose is right on the job all the time could not see. Perhaps we might hear from some of these gentlemen whe are familiar with syndicate control, or who have called in some expert on a somewhat different basis.

Mr. McCorkindale—I called in an auditor because I was not quite satisfied how our organization was going on at Ishpeming. I thought there might possibly be some way of improving office conditions; there might be a leak somewhere or some lack of efficiency, as we might call it in this discussion. I did not call in a competent gas man (I was not looking for somebody who could make gas or even to sell gas stoves) but retained a gentleman from Chicago who made a specialty of auditing books for telephone, electric light and gas companies, also the outlining of business methods. On his arrival I told him, first, to go through the books, auditing everything, cutting out anything superfluous that we had. Then I would go over with him the various duties of the different heads of departments we had. I wanted him to stay long enough so he could see how they were doing their different work, and if there were any suggestions he could make, whether as manager or assistant, I wanted him to be frank and go over them with me; and while, as I told you, he was not a gas engineer or electrical engineer, we got a great deal of good out of his visit. In actual cost in operating expenses of the office, he saved us the salary of one girl for doing work therein. It was not much money; but it was something. The work in the office had reached such a stage that it looked just a little bit like a possibility of its becoming necessary to get one more man. In fact, for some time we had one more man in the office. Right now we have a bookkeeper at $85 a month, an assistant at $75 a month, and a girl at $55, and we had still another girl; part of the time we had another man. Through the system which he installed there—just petty things, a a good many of them were—we were getting along splendidly with the two men and one girl in the office. Some of the outside work he went into in detail and found quite a leak in our storeroom. He helped to remedy it there; in fact in a number of different things he helped us. I simply got him in to do that work as I felt there might be something that we could improve on. It is along this very subject we are discussing now.

The President—Can we have further discussion on this? Mr. Glass, won't you give us a few words on this subject?

Mr. Glass—Mr. President, this question is of so much value to us all, and so far-reaching in its effects, if properly applied, that we should give it much greater consideration in the future than we have in the past. I would like to make the suggestion on the subject that each one to take home with him and apply in his everyday work. That is this: Never do anything a second time if once doing will suffice. The saving that can be made in your work by the adoption of this rule will be a great surprise to most of you.

The President—I wonder if any of the supply men present who have or had to do with their factories could give us light on this subject as regards manufacturing.

(To be Continued.)

Shop Management.

[A Paper read by Mr. A. W. Young, Knoxville, Tenn., Southern Gas Association, Montgomery, Ala.]

The method of selling and installing gas appliances usually employed by gas companies is to sell them at a small margin of profit with free connections or connections installed at a low cost to purchaser. Meters are usually installed, complaints of leaks investigated and, by some companies, repaired, complaints of poor service remedied, new house piping inspected and tested, and numerous other orders attended to free of cost to customers. Unless the strictest economy is practiced in the management of the shop doing this work, the small margin of profit in the sale of the gas appliance becomes a loss, and the expense of gratuitous work an item out of all proportion to the amount of business done.

In writing a paper on this subject I do not feel that I can add anything new to what has been said, yet I believe the subject one that can profitably be discussed at this season of the year when our appliance sales are usually the highest and our shops rushed with orders. The question of shop management can hardly be discussed without making some reference to the importance of having the proper form of work order, and the order properly and completely filled out before handing to fitter. Work orders are usually made out in triplicate, one copy for shop, one for fitter and one to be retained in office. These orders should have printed on them, with blank spaces to fill in by clerk, all information required by fitter in executing work.

When possible, the number of the house should be given. People who live at the intersection of two streets will sometimes give the corner of 6th and Montgomery streets as their address. There are four corners to an intersection, and oftentimes two families to a house, which sometimes requires the fitter to spend 10 or 15 minutes finding the place where work is to be done. Occasionally a customer will give his address at the intersection of two streets, though he lives one or two doors from the corner.

Care should be taken in getting correct initials, with names properly spelled, the number and kind of appliance, approximate amount of material required, if a complaint, the nature of it, and, in fact, all possible information concerning the work to be done should be obtained by order clerk so that all the fitter will have to do, is to do the work. The order clerk's time is not so valuable as the combined time of a fitter, helper and wagon, and when taking an order he is usually in a better position to get correct information than a fitter out on the work.

When a fitter is required to report material on the work order, a list of the fittings and material that he will probably use should be printed on the order. The printer can do this much cheaper than your fitter, and the average fitter is more skilled in the use of a wrench than he is in the use of a pen. The more you can print for him the less time will be wasted and the more accurate will be his reports.

Conditions vary in different localities, and what would possibly be the means of making a saving in one shop would only increase the cost in another. To become more familiar with conditions and methods used in the shops covered by our associati on, I sent a set of questions to the different members, and was surprised to find so many shops using the same general plan of doing work, which plan I will give, also some different methods which might be applied to advantage in some of the localities covered by this Association.

The method in most general use is to route all orders, give material and appliances to fitters, start each one to his district with enough orders to keep him busy until noon or night. The fitter is provided with a helper and wagon, the necessary pipe, a box of assorted fittings and the following tools:

1 pipe vise; 1 set-stocks and dies, ¼ to 1 inch; 1 3-wheel pipe cutter; 1 1-wheel pipe cutter; 1 brace and bits from ¾-inch to 1-inch; 1 hacksaw; 1 keyhole saw; 1 spirit level; 1 hammer; 1 wood chisel; 1 cold chisel; 1 diamond point chisel; 1 18-inch pipe wrench; 1 14-inch pipe wrench; 1 try gimlet; 1 pipe drill; 1 oil can; 1 file; 1 hand-box; 1 screw-driver; 1 pair pliers; 1 rule; 1 tape line; 1 box screws; 1 can graphite; 1 can aluminum bronze; 1 can gold bronze; 1 pint of bronze liquid; 2 bronze brushes; 1 can furnace cement; 1 step-ladder; 1 force pump; 1 drip pump. The ladder, pumps and additional tools can be carried only when orders indicate that they will be needed.

The fitter is required to keep in close touch with the shop by 'phone, telephoning upon completion of each job, and receiving any new orders that come in from the district in which he is located. The work is inspected, either by an inspector who visits all completed orders, or by the foreman, who visits all or as many as time will permit. The method of rewarding superior work is by increased wages or promoting to higher position when vacancy occurs. The fitter who does inferior work is censured, and if inferior work continues is discharged. Special or rush orders are attended to, either by giving to fitter when he 'phones to shop, or sending for him. Of the other plans I will state just enough to bring out the differences, the tools, etc., being practically the same.

Another plan is to give fitter, as far as practicable, certain territory, fitter and helper to go over this territory with orders properly routed. The delivery wagon precedes the men and delivers appliances with sufficient tools and material to complete work, and the wagon afterwards calls and picks up material left, in which way one team is made to take care of a number of men. Material with fittings, tool boxes (all the same lock) and each man having a key, can be taken to shop on next job ahead. The fitter being given new orders,

either by 'phone or by the foreman, the wagon is not required to return to shop either for orders or material, so that no time is lost in going to and from shop.

One plan used during the rush season is to deliver appliances by means of a large transfer wagon, the fitters' wagon with material and tools following up these deliveries and executing the orders. When this is done, orders received at the shop by noon are delivered that afternoon and executed next morning. Orders received in the afternoon are delivered next morning and executed in the afternoon. One plant reported work being done on the piece price plan, any defective work being remedied on the fitters' own time.

Still another plan is to route orders, giving fitters all orders in a certain district; the fitter has his wagon and helper, and carries the necessary tools, material and appliances. The foreman or inspector goes to the jobs where appliances are to be connected and shows the fitter how and where to run connections. This I consider a good plan. It may not be possible to have a foreman or inspector visit each job at the time it is commenced, but a great many can be started under his direction and a saving made in both time and material. The foreman or inspector holds his position because of his knowledge of the work he directs, and to give the company the benefit of that knowledge he should plan as much of the work as possible. The work should be inspected when completed, but it is then too late to show a fitter where he could have saved a few feet of pipe, several fittings and some time.

All of these plans have slight differences in the division of work; in one place a fitter attends to all classes of orders, such as setting ranges, water heaters, meters, investigating complaints, etc.; in another, a fitter will attend to the connection of appliances only, with special men for complaints, and setting meters. Another place will assign each fitter a certain class of work; that is, the fitter who is best on range work is given range work only, and the one who is best on heater work, heater work only, etc. These divisions of work depend very largely on the size of the company, the larger ones being able to specialize work; while with the smaller companies it is necessary to have fitters attend to all orders, and in the very small companies they are required to do other work, such as keeping up repairs about plant, laying services, etc.

Now, the main object of all these methods of laying out and dividing the work is to secure a first-class job at the least possible expense and in the shortest space of time. When work is paid for by the piece, the compensation for it is based on the length of time it will take to complete the work, and how much, under the average conditions, the average man can do in a day.

It may not be practical for all of us to adopt a piece-price scale, but I believe we all should have a schedule showing the amount of time that it takes to complete each class of work, to be used as a guide for our shops.

I have not been able to get many figures on the amount of time required for doing the different kinds of work covering the many different conditions under which work is done, but I have made up a small list which can be used in a general way and will serve as an illustration:

Class of Work.	Time.
Set range, fuel line in	30 minutes.
Set range, 40 feet fuel line to run	1 hour 30 "
Set range, 2d floor fuel line to run	2 hours 30 "
Set circulating water heater	2½ to 3 hours.
Set gas log, 40 feet fuel line to run	2 "
Connect bathroom heater and ind. cock	20 minutes.
Connect hot plate and ind. cock	20 "
Hang one arc and pipe from ceiling to arc	20 "
Clean arc and renew mantles	5 "
Take down arc and cap pipe	3 "
Install one lamp, inverted or upright	5 "
Put on new mantle and chimney	3 "
Install meter and connections	15 or 20 "
Change meter	10 "
High bill complaint, read meter and test for leak	30 "
Complaint caused by naphthaline or water	20 "
Clean house pipe and risers	1 to 1½ hours.
Clean stove burners	30 minutes.
Clean lamp, inverted or upright	5 "
To find the average leak and repair same	30 "
Adjust and clean water heater	30 "

The time given in this table is the time required to do the work, and does not include time going to and from the job. A table along this line with changes and additions to cover nearly all classes of work and conditions under which work is done could be made by each shop, and used to advantage. In order to get results in anything, we must establish some unit of result that it is possible to get, then seek the trouble if we do not get it.

It is difficult to establish a positive unit of result for a gas distribution shop, but the number of orders attended to per man per day can be used as a guide. I have the figures of several companies, and these average from 8 to 11 orders per man per day, including all orders except main and service orders. These figures were taken over different periods ranging from 1 to 6 months. By taking this average weekly or monthly an average can be established which will be of value in checking the amount of work done by the shop, and it will give the shop a goal for which to strive.

A majority of the shops are using merchant black pipe for gas connections and galvanized pipe for all water connections. The merchant pipe for all interior gas work answers the purpose as well as strictly wrought iron or galvanized pipe, and has the advantage of being cheaper; and for this reason, I believe in using it. Several companies are using galvanized fittings on gas connections. This is done because of the sand holes sometimes found in the malleable fittings; but I do not believe there are enough defective malleable fittings to warrant the extra expenditure. The location of meters, where houses are without cellars, is often a perplexing one. In climates where the winters are not severe, meters are placed under porches or on the porch, or in the most sheltered place available. In localities where some severe weather is experienced during the winter, it is not advisable to put meters under porches or in places exposed to the cold.

One company reported, when they selected the kitchen for meter location, it was placed on the wall, the object being not to have service stop near the floor where some one could connect his stove direct to service without a meter.

Another company is trying to force architects and builders to provide in all new buildings a suitable place for meters, to be approved by the company's inspector. This I consider the best method of getting our meters placed where they will be accessible, safe and protected.

A gas meter is found in every well managed home and building, and its location should be planned or a suitable place provided for it as for any other fixture. By doing this our customers and ourselves would be saved considerable expense and trouble, and I believe it can be accomplished, just as we succeeded in specifying the sizes of house piping.

Before closing this paper I would refer you to a paper which contains some valuable rules for shops, entitled "Instructions for Gas Distribution Employees," written by Mr. J. M. Robb, and published in Vol. I., "Proceedings," the American Gas Institute.[1]

Commercial Lighting.

[Read by Mr. J. N. Cooke, of Jacksonville, Fla., Montgomery Meeting, Southern Gas Association.]

A well lighted store is the best advertisement a merchant can have. No one can doubt the truth of this statement. The question is, which light?

Local conditions govern to a certain extent the amount of commercial lighting a gas company can do, but under average conditions, there is no excuse for a gas company not having the greatest percentage of lighting. When we stop to consider that the average gas arc is a better consumer than the average gas range, and that the average cost of installing is less (which are facts) it seems strange that more companies do not spend more time developing the commercial lighting end of the business, as the sendout would be materially increased.

I do not know the conditions under which other companies in the South are working, but I do know that the conditions in Jacksonville were very unfavorable for this class of business. However, we have won out and owe a large percentage of our sendout to our commercial lighting. In the hope that it will prove of benefit to those of you who are considering entering this field, I will outline our own plan and experience.

When the present management took charge of the gas company in Jacksonville, 4 years ago this month, very few of the business houses used gas for illumination; in fact, there were about 400 arcs on maintenance in the whole city. A few merchants owned and maintained their own arcs, so, of course, you can imagine the condition they were in, as the colored porter was generally the man who maintained (?) them.

1. See American Gas Light Journal, Jan. 11, 1906, p. 1016.

The lamps owned and maintained by the Company were old-style, and no particular attention was paid to see that the maintenance men did their work properly. The first thing we did, after looking over the situation, was to order a few new up-to-the-minute arc lamps, then make a canvass of all the business houses, whether using gas or not. We found many merchants were not entirely satisfied with their lighting equipment. We called on those who would listen and made them a proposition to install, on 30 days' trial, 2 or more lamps, and if perfectly satisfactory after 30 days they were to pay us 50 cents per month for maintenance; and we always insisted that the lamps be maintained by us instead of by the merchant. This trial proposition, however, we used only where piping and service were already in the building, and only for a limited time, and I might add, that we did not lose a single installation.

One man was placed in charge of this department, who saw to it that the maintenance men understood the arc light thoroughly, and that they did their work carefully. He also made regular calls upon consumers, not to ask for new business, but to see that the lights were giving the merchant the service he should have. Every complaint was investigated personally and promptly attended to.

The preliminary work was begun in the middle of August, and the report at the end of the month showed a gain of 46 arc lights. In a short time the prejudice existing against gas was overcome, and we were able to solicit new business without having some one begin to kick at the Gas Company the moment a representative started his business. We found that the good service we were giving, as well as the fair treatment which the merchant received from us, was all the advertising we needed to do.

After working on this plan several months we tried to induce the merchants owning their own lamps to allow us to maintain them, but without success. As a matter of fact, the lamps were in such shape that it would have been almost impossible to put some of them in first-class condition. We then proposed to all merchants owning arcs that we would buy their old lamps, paying them $3 per lamp, if they would install new lamps on the maintenance basis. We were able to replace every old lamp by this method, and very materially increased the consumption, besides getting a lot of advertising which was worth more to us than the amount paid for the old lamps.

We had a large number of small concerns who were using all the lights they could stand—two or three arcs at the most. We wanted the big concerns and went after them. When we found that a merchant would not consider gas for lighting we left him alone and went to work on his neighbors. We would get them to install gas lights, then, when we had his place surrounded with gas lighted consumers, we would drop in some evening and ask him to step across the street and see for himself. Sometimes we would have 2 or 3 in the same block, and it was amusing to hear the different expressions; but we landed them. It took us 2 years to land one of our big consumers by this method.

One of our biggest consumers runs a large pool and billiard room with a restaurant, cigar store and barber shop in connection. We had lighted his billiard tables in his old store and when he rebuilt after being burnt out not a piece of electric wiring, except for his fans, went into his place. There is not a shadow on the tables, and we have reduced his light bill 25 per cent. while he helps us out to the extent of using between 350,000 and 400,000 cubic feet of gas per month. The Southern Express Company light their building entirely with gas, reflexoliers being used in their offices, while, outside and inside, inverted arcs are used in the shipping department. The Seaboard, Atlantic Coast Line and Florida East Coast Railroads are using our arc lights exclusively for lighting their freight sheds, and we have just closed a contract with the Clyde Steamship Company for lighting their new $500,000 terminals. Another one of our large consumers, a laundry, having his own electric power plant, uses gas exclusively for lighting. When such concerns as these, as well as the large department stores, use gas in preference to electricity, does it not go to show that, with the right kind of service and fair treatment, there is no reason why the gas company in a town should not do a large majority of the commercial lighting?

About this time we had made such inroads in commercial lighting that the electric people began to be worried. They brought two experts from one of the largest electric fixture houses in the country and began an active campaign against gas. What they did not say against gas I do not know. They leased a hall, installed about 20 different styles of tungsten fixtures and advertised that they would hold free lectures on illumination every night for a week, and invited every merchant to attend. They also made the proposition that they would make "Mr. Merchant" a present of any style fixture he selected and install them free of charge in his place of business. Of course, every merchant in town attended and thousands of dollars worth of tungsten fixtures were installed. However, they made one mistake; the hall, or rather vacant store, which they leased was next door to a store that was lighted with gas and a comparison between the two was one of the best "ads" we could have had. Of course, the tungsten fixtures were used for a while until we began installing reflexoliers on the rental-maintenance plan. We did not go into this with a jump, but gradually added to "Mr. Merchant's" equipment. Where we were losing consumption on account of the tungsten fixtures, we would rearrange the gas lighting equipment, substituting reflexoliers for arcs wherever necessary, talking good service and giving it too, and before long had regained what little we had lost, and more too, as the reflxoliers broadened the field of our labors.

We have met with a great deal of success in out-door lighting. In one business section of the town we have installed for two blocks inverted arc post lights. They far eclipse the electric lights which the city installed on what we call our "Great White Way" and are giving entire satisfaction as to their cost. We have installed outside inverted arcs in front of almost every picture show in the city. One in particular, at the intersection of two of the busiest streets, consists of nine inverted arcs suspended from the roof and it is needless to say that this is the best lighted corner to be seen. We have put in a large number of reflex burners equipped with the pneumatic system in places where it was necessary to hang the lights higher than usual, but chiefly in show windows. In the latter cases the button is placed on the outside so that our man can turn them off at the proper time. We furnish this service to the consumers gratis, turning off all window lights and outside arcs at 10 o'clock, the post street lights at 11. This service assures the merchant a well-lighted place of business in the evening, and is the means of adding a good many thousand cubic feet to the send-out. We pay the man who turns out these lamps so much per lamp and he keeps account of the exact time that lights are turned out.

Our plan for installing arcs or reflexoliers is to charge the consumer for all piping and fittings where only one arc is put in, or for less than 8 reflex burners. Where the number exceeds this we do all necessary piping free. For maintaining we charge 15 cents a burner for reflexoliers. For upright arcs, inside and out (post lights not included), our rate is: One to 5 arcs, 25 cents each; 6 to 10 arcs, 20 cents each; all over 10 arcs, 15 cents each. The inverted arc, being much neater in appearance and giving better distribution of light, with a less consumption, we found that, in order to protect the upright lights now in use, it was necessary to provide a handicap; we, therefore, charge a higher rate of rental maintenance for these lamps, varying from 50 cents for 1 lamp to 35 cents per lamp for 7 or over. In case the average consumption is over 20,000 cubic feet per month we maintain lamps free. On outside inverted arcs we charge 75 cents each, which is reduced to 25 cents when their consumption reaches the 20,000 cubic foot mark.

We are very careful about our installations. First, to see that the right kind of light goes into a merchant's store and that the light is properly distributed; second, to see that the fitter does his work as neatly as possible. We have one man who has given this particular line of the business very careful study, and to him all lighting prospects are referred by the solicitors, who also have studied the subject carefully. By this method very few mistakes are made on installation, and the merchant is assured of highest efficiency at the least possible cost. The common tendency, when a prospect is landed, is to hang as many lamps as possible; the more lamps the better report a solicitor is able to turn in; but a company following this plan will soon find that other solicitors are bringing in more arcs than they are installing; the merchant decides that his bills are excessive and he soon returns to electricity.

Our maintenance men must be polite and neat in their work; they arrange their routes so as to visit the stores when it is most convenient to have them. The lights are cleaned thoroughly; no dirty glassware is allowed to remain. We do not attempt to clean reflexolier glassware on the premises, but replace dirty shades with clean ones which have been washed at the shop. Every light is trimmed once a week; oftener if necessary. The merchant is required to sign a card showing that our man has visited his place and cleaned the lights to his satisfaction. This plan protects us in making out charges, as sometimes a merchant will dispute the maintenance bill on the ground that the lamps were not given attention. Each main-

tenance man is required to 'phone into the office every half hour after 4:30 in the afternoon. In this way any complaint which might have come in, is given prompt attention, when a delay might mean serious loss to our consumer. An individual record of each man's daily work is kept; the number of lamps trimmed; number of mantles used; number of mantles per lamp; number of complaints received and number of mantles used on complaints; and by this method the maintenance cost is reduced. By keeping a record of each man's complaint's and charging these against him the service is kept at top notch. Whenever we receive a request to remove lamps from a store, before we do so, we call on the merchant, find out his complaint, and adjust it if possible—very often this attention has kept the lights in and made for us a booster.

In all our dealings with the merchant we try to show him that we have his interest at heart at all times; his complaint, no matter how trivial it is, is given the attention he thinks it should have. We give him, as far as is consistent, just what he wants, and at the least possible cost. We are always willing to help a merchant in reducing his bills, and use our best efforts in doing so, and, above all, we install the appliances which we know will give him the best possible service. To this policy towards the consumer is due in no small sense the success with which we have met in our commercial lighting. We have to-day nearly 2,000 arc lamps and over 2,200 reflex burners on rental-maintenance, which means a very large proportion of the commercial lighting of the city, where 4 years ago gas was used only for emergencies.

While it may not be possible for every company to employ a lighting engineer, they should at least have one man to whom all lighting prospects can be referred, and who can recommend the light best suited for the particular place. Above all, they should give good service. Good service costs money, but it pays in the end.

Heating Value Specifications.

In consequence of the success that has attended the use of heating value specifications in buying and selling coal there has arisen a demand for similar specifications, based on careful tests, to govern the purchase of fuel oils and the refined products of petroleum. The Bureau of Mines has, therefore, issued "Technical Paper," No. 3, by Mr. Irving C. Allen, on "Specifications for the Purchase of Fuel Oil for the Government," with directions for sampling oil and natural gas.

"These specifications, to be satisfactory," says the author, "Should establish not only the heating value of the oil, and thus show, like the specifications for coal, the number of heat units the purchaser obtains for a given price per unit quantity of fuel, but also the physical character of the oil, its flash and burning points, and the quantity of extraneous matter it coutains.

"It is evident that an esential feature of any such plan of purchasing oil in bulk is an equitable method of sampling deliveries—that is, a method that insures the taking of representative samples.

"The Bureau of Mines has received many inquires from government bureaus and from private concerns regarding fuel oil specifications and the sampling of purchases. In reply to these inquiries the bureau issues this paper, which, although intended primarily for the guidance of Government officials, may be of service, the Bureau trusts, to all persons who buy or sell fuel oil." General specifications for the purchase of fuel oil are given as follows: In determining the award of a contract, consideration will be given to the quality of the fuel offered by the bidders, as well as the price, and should it appear to be to the best interest of the Government to award a contract at a higher price than that named in the lowest bid or bids received, the contract will be so awarded.

Fuel oil should be either a natural homogeneous oil or a homogeneous residue from a natural oil; if the latter, all constituents having a low flashpoint should have been removed by distillation; it should not be composed of a light oil and a heavy residue mixed in such proportions as to give the density desired. It should not have been distilled at a temperature high enough to burn it, nor at a temperature so high that flecks of carbonaceous matter began to separate. It should not flash below 60°C. (140°F.) in a closed, Abel-Pensky or Pensky-Martens tester. Its specific gravity should range from 0.85 to 0.96, at 15°C. (59°F.); the oil should be rejected if its specific gravity is above 0 97 at that temperature. It should be mobile, free from solid or semi-sold bodies, and should flow rapidly, at ordinary atmospheric temperatures and under a head of 1 foot of oil, through a 4-inch pipe 10 feet in length. It should not congeal nor become too sluggish to flow at 0°C. (32°F.) It should have a calorific value of not less than 10,000 calories per gram (18,000 British thermal units per pound); 10,250 calories to be the standard. A bonus is to be paid or a penalty deducted, according to the method stated under section 21, as the fuel oil delivered is above or below this standard. It should be rejected if it contains more than 2 per cent. water. It should be rejected if it contains more than 1 per cent. sulphur. It should not contain more than a trace of sand, clay, or dirt.

Each bidder must submit an accurate statement regarding the fuel oil he proposes to furnish. This statement should show: The commercial name of the oil; the name or designation of the field from which the oil is obtained; whether the oil is a crude, a refinery residue, or a distillate; the name and location of the refinery, if the oil has been refined at all.

The fuel oil is to be delivered f. o. b. cars or vessel, according to the manner of shipment, at such places, at such times, and in such quantities as may be required, during the fiscal year.

Should the contractor, for any reason, fail to comply with a written order to make delivery, the Government is to be at liberty to buy oil in the open market and charge against the contractor any excess of price, above the contract price, of the fuel oil so purchased.

Copies of this technical paper may be obtained by addressing the Director of the Bureau of Mines, Washington, D. C.

Rules to Determine the Heating Value of Coke Fuel.

The *Gas World* points out that the Central Coke Committee of France, having in view the confusion occasioned by variations in the methods adopted to specify the heating value, have issued a circular announcing their intentions as to nomenclature.

(A) Take a fuel which has been dried at 110° C. (= 240° F.), find the gross heating value in calories per kilogram, the water from the combustion being supposed to be cooled to freezing point; then this is the absolute heating power of the *dried* fuel, or the absolute heating power, simply. Suppose this is 6,882 calories per kilogram.

(B) Take a fuel containing 12 per cent. of water; dry it at 110° C.; then the absolute heating value of the *dried* residue is, suppose again, 6,882 calories per kilogram; but the heating value of the original wet fuel is only 6,056 calories per kilogram. Call this the absolute heating power of the crude, damp fuel.

(C.) Take a fuel containing 12 per cent. of moisture, 13 of ash, and 75 of combustible matter; let its absolute heating power (A above) be 6,882, or its absolute heating power when damp (B above) be 6,056; then the heating power per kilogram of the combustible material (excluding moisture and ash) is 8,075 calories per kilogram. Call this the absolute heating power of the pure combustible. This is of importance in reference to deterioration through exposure to wet. If the moisture rises to 22 per cent. instead of 12, the heating power wet (B above) falls from 6,056 to 5,368.

(D) The laboratory bomb test gives a figure which assumes that the water formed has condensed to 0° C. and has given up all its heat. This is not the practical result of burning the coal as fuel; steam or water vapor carries off heat units. Each gramme of steam or water vapor at 100° C. carries of 0.637 calories, whether it owes its origin to the original moisture or to the combustion of hydrogen. On deducting this, we arrive, from the absolute heating power (A above), at the net heating power, the useful heating power of the combustible.

(E) Suppose a coal containing 12 per cent. of moisture, 13 per cent. of ash and 75 per cent. of combustible, and that this latter contains 1 per cent. of hydrogen. Then on combustion of 1 kilogram of this there would be 0.12 kilogram water evaporated and 0.0675 kilogram water vapor produced by combustion; in all 0.1875 kilogram water vapor at 0.637 calories per gramme = 187.5 × 0.637 calories = 119 calories, and the heating value wet (B above) is 5,937, instead of 9,056. This is the useful heating power of the crude material wet. This is the most useful of all the series. The water vapor produced by the combustion may cause the practical value of the fuel to be as much as 8 per cent. less than that given by Mahler's bomb (B above).

The thermic efficiency of any apparatus is the ratio between the number of calories utilized and the number given by the fuel, in a given period of time. The latter number is the product of the weight of the fuel into its heating value. This heating value may be the

absolute (A above), in which case we have the "absolute thermic efficiency;" but the Coke Committee announce their intention, in all specifications, of using the useful heating power (E above) in stating this ratio, which will then be called the useful thermal efficiency.

Management & Commercial Methods.

AUTO DELIVERY TRUCKS.—The illustration well reproduces the appearance of one of the large electric delivery trucks used by the Denver (Col.) Gas and Electric Company for the delivery of gas coke. The truck as shown is carrying 5 tons of the material, and the speed and ease with which that or other heavy or bulky material can be

delivered. The wagon or truck shown figured in the industrial parade, that was brought off in Denver the 18th ult., in compliment to the National Association of Real Estate Exchanges, and attracted widespread attention. For the photo we are indebted to the courtesy of Mr. Rufus G. Gentry, of the Denver Company's commercial division.

Recent Patent Issues.

Prepared for the AMERICAN GAS LIGHT JOURNAL by ROYAL E. BURNHAM, solicitor of patents and counselor in patent causes, 833 Bond Building, Washington, D. C., from whom illustrations and specifications of any patent mentioned below may be obtained for 10 cents.

998,614. Gas Producer. J. A. Herrick, New York city.

998,699. Fuel Feeder for Gas Producers and Heating Apparatus. N. Lallie, Nantes, France.

998,809. Gas Producer. G. Steinl, Ginger, Tex., assignor of one-half to T. J. Shaw, same place.

998,930. Gas Scrubber. G. M. S. Tait, Montclair, N. J., assignor to Tait Producer Company, New York city.

998,931. Gas Valve. G. M. S. Tait, Montclair, N. J., assignor to Tait Producer Company, New York city.

Items of Interest
FROM VARIOUS LOCALITIES.

THE Public Service Commission, Second New York District, has authorized the promoters of the Endicott-Union Gas Company to issue common capital stock in the sum of $25,000; also to put a mortgage upon its property, issuing thereunder bonds in the amount of $35,460, the bonds to bear interest at the rate of 5 per cent. The sums realized on such security placings are to be used in the construction and equipment of a gas plant in Endicott, Broome county.

ANOTHER pronouncement by the above-named body, authorizes the Mohawk Gas Company, of Schenectady, N. Y., to exercise franchise rights and privileges in the village of Scotia, town of Glenville, Schenectady county.

MR. JAMES O. CARR appeared as Attorney favoring the application of petitioners. Scotia is a live place, all right.

WE hope that Mayor Logan told all he knew or was concerned in when he vetoed the resolution passed by City Councils of Manchester, N. H., the 10th of last month, under which Superintendent of Street Lighting, Mr. Henry A. Knight, was instructed to enter into a contract with the Manchester Gas Company, under which the latter was to execute contracts for the maintenance of 500 boulevard gas lamps, open burner type, and 600 gas street lamps of the mantle sort, both types to replace gasoline lamps. The Mayor explained his refusal to approve by stating that the order had not been submitted to the Committee on Street Lighting.

ON July 25th, the American Cities Company, a new holding corporation to retain in trust the street railway and lighting properties in New Orleans, La.; Memphis and Knoxville, Tenn.; Birmingham, Ala.; Little Rock, Ark., and Houston, Tex., was formed. The officers elected were: President, George H. Davis; Vice-Presidents, George Bullock and Wm. Von Puhl; Secretary, M. McGrath; Assistant Secretary and Assistant Treasurer, Ira M. Lockwood; Chairman of Board of Directors, John J. Gannon. Our authority in the premises asserts that no changes were announced for any of the constituent companies except that Charles J. Griffith has been appointed General Superintendent of the railway and lighting departments of the Little Rock Railway and Electric Company. He succeeds to part of the duties looked after by D. A. Hegarty, who comes to New Orleans on August 1, as the Manager of the railway and electric departments of the New Orleans Railway and Light Company. Mr. Griffith, however, does not succeed Mr. Hegarty as the Vice-President and Treasurer of the Little Rock system. The American Cities Company, which replaces the American Cities Railway and Light Company, organized by the late Isidor Newman, is capitalized as follows: $10,000,000 issue of stock in bonds, $21,810,083 preferred stock and $16,642,416 common stock. The selection of the board of directors shows some of the strongest financiers and capitalists of the country, and the unqualified statement was made that it represents the strongest railway holding company in the South.

MR. EDWARD R. ROBBINS has resigned from the service of the Bridgeton (N. J.) Gas Light Company.

THE property formerly occupied by the Racine (Wis.) Gas Light Company, at the corner of Lake avenue and Sixth street, has been sold to the B. P. O. E. organization.

WORK of construction has been started on the buildings proper intended for the housing of the necessary machinery to be installed in the new works of the Anderson (Ind.) Gas Company.

MR. JAMES CONN, who has for some time been connected with the commercial department of the Chester branch of the Suburban Gas and Electric Company, of Philadelphia, has been transferred to the offices of the Tampa (Fla.) Gas Company, which property was recently added to the Suburban Gas Company's possessions.

MR. H. M. BEUGLER, Manager of the electrical division of the Central-Hudson Gas and Electric Company, and Mr. L. H. Scherck, Manager of its commercial division, will be the official representatives of the Poughkeepsie branch of the Company. It is likely the intention of the management to have the named gentlemen alternate or rotate between Newburgh and Poughkeepsie, all of which would seem a practical exemplification of the beauties and refinements of "efficiency engineering."

IN connection with the above, later information (of a more extended nature, too) has come to hand, in the shape of a clipping from the Newburgh (N. Y.) *Union*, dated the 29th ult. It is this: "The Central-Hudson Gas and Electric Company has just posted bulletins in its offices at Newburgh, Poughkeepsie and Cornwall, announcing the form of organization that will be employed to conduct the business of the consolidated Company throughout the territory served. In addition to the bulletin, a diagram has been posted showing the relation that each employee, from the President down, will bear to the organization. The plan divides the business into three depart-

ments, each under a separate head, as follows: Financial department, operating department and sales department. These three will be under P. A. Burnes, H. M. Beugler and L. H. Scherck, respectively, and the three heads of departments will act as an executive staff, under the General Manager, T. R. Beal. At a recent meeting of the Directors the plan of organization was formally approved, and the above appointments made. The officers of the new Company who have been elected, are as follows: President, William R. Beal; Vice-President, J. L. Wilkie, in charge of the Company's legal department; Treasurer, William Schickle. Heretofore, the three Companies forming the consolidation, namely: The Newburgh Light, Heat and Power; the Poughkeepsie Light, Heat and Power, and the Hudson Counties Gas and Electric, have been operated as entirely separate companies, each having its own organization. Under the consolidation the three organizations will be united as one. The chief result of the change will be to simplify the management by substituting one Board of Directors for three, and so on down. The operating force, under the general manager, will remain practically as heretofore. The plan provides for the expansion of the operating system, due to the growth of the Company's business which has been considerable during the past year, so that, in reality, a constant increase in the operating force is to be expected. In fact, in the near future, some addition appointments are to be made in the operating force, with the idea of improving the quality of the Company's service, and to take care of the additional business. In the Newburgh offices, A. R. Beal has been appointed as District Superintendent of the Company's gas and electric plants, and Mr. W. H. West has been transferred to the Sales Department, under the title of Contract Agent, and will be assisted in this department by Mr. J. H. Y. Kidd and Mr. Henry Beakes. Mr. August H. Selke has been promoted to the position of Cashier.

THE Terry Steam Turbine Company will hereafter be represented in the Middle West by Mr. Ashley P. Peck, whose headquarters will be in the Peoples Gas Building, Chicago. Mr. Peck has been identified with the Allis-Chalmers Company since 1905.

THE Public Service Gas Company, of New Jersey, as per the indorsement of the New Jersey State Board of Utility Commissioners, has been authorized to emit an issue of capital stock amounting at par to $1,125,000.

THE Joint Commission, on City Hall and Court House, of St. Paul, Minn., has awarded the contract for the lighting, heating and power supply of the buildings over which the Commission has jurisdiction, at the St. Paul Gas Company's bid (aggregate) of $13,000 for the year.

ON the 29th July, Mr. John B. Avis, Solicitor to the Board of Freeholders of Woodbury, N. J., made application to Vice-Chancellor Leaming for an injunction to prevent the Glassboro Gas Company from laying mains on or under the Crown Point Road, West Deptford township, until such time as a proper sum in compensation could be arranged between the authorities and the Company.

MR. J. T. WALLACE, formerly General Sales Manager of the Blau Gas Company, of America, has been appointed Manager of the sales' division of the Dorian Remountable Rim Company, of New York.

THE scheduled hearing before the Massachusetts Board of Gas and Electric Light Commissioners, respecting the petition of certain residents of Worcester for a revision of the selling rates for gas and electric current in that city, has been postponed until the 12th prox.

"B. M. W.," writing from Birmingham, Ala., under date of the 28th ult., says: "To be sure the sun 'do move,' leastways it 'do move' in this section of our free country. I'm led to this repetition of an old ejaculation through a leisurely scanning of my copy of the Birmingham *Ledger*, dated July 25th. Tuxedo is a charming suburb of our city, and it would, in the minds of many, be vastly more charming, if fewer numbers of the genus Senegambian had not gravitated to its midst. However, this is a darkened story. In the furtherance of its desire to serve the public wisely and well, the Birmingham Railway, Light and Power Company, found it necessary to construct a storage holder. The lay of the land and the trend of population caused the Tuxedo district to be chosen as the site for the vessel, which selection aroused the wrath of many of the aforesaid Senegambians, who objected strongly. Yet, as the Company exhibited no inclination to desist from its purpose, did the dark cloud of objection blacken into a nimbus of indignation, until the point was reached whence a delegation headed by Mistah Robert L. Daniels (as Attorney) appeared before the Board of Commissioners, to make a strong plea against the holder going up. As the *Ledger* puts it: 'The speakers stated that 45 negroes owned their houses in the vicinity of the place where it is proposed to erect the tanks. They asserted there were no loafers in the community and that everyone of the householders was attempting to build a community that would be a credit to Greater Birmingham. They pleaded with the Commission to help them in the uplift movement, with much stress on the uplift. The Company explained that engineering necessity dictated the choice of the site; further that, the Company would be put to undue expense were it oblige to locate elsewhere; finally, that the holder could in no sense be considered dangerous to the residents of the district. The Commissioners decided to make a personal visit to the location, until which visit, the Company is asked not to go on with the work. If these Tuxedo denizens were on the level respecting 'uplifts' they should accompany some of the Birmingham Company's canvassers who would speedily lead the former to the living (?) quarters of other negroes in Birmingham, the squalor and absolute filth of which are really undescribable. Let the uplift be commenced there, where its carrying out would actually mean the removal of conditions which actually manace the health of Birmingham as a whole."

"J. J. L.," writing from Detroit, Mich., under date of the 28th ult., says: "The residents of Trenton, Mich., are adhering to their refusal to pay a 5 cents collecting fee on the gas bills of the City and Suburban Gas Company claiming that, as the franchise agreement specifies that the Company shall furnish gas to certain districts, the Company must maintain collection offices in every section supplied which is designated by or with a distintive name.

THE Peoria (Ills.) Gas and Electric Company, in order to make its way secure, has secured the right to use the Farm Creek road for piping a supply to the settlement known as Washington City, which place is 13 miles distant from Peoria proper.

THE Citizens Gas Light and Coke Company, of Cleveland, O., has notified the holders of its bond issue bearing date of August 1, 1900, that numbers 125 to 134 (both inclusive) have been drawn for redemption. The bonds are redeemable on presentation at the office of the Cleveland Trust Company. Interest on the designated bonds ceased the 1st inst.

A VERY peculiar accident is that reported from Vincennes, Ind., some days ago. Philip Burrell (a farmer) and a helper named Ulann, were moving a thresher (of the gasoline type) over the ground near Lawrenceville, Ind., when it struck and punctured a natural gas line, high pressure type. The gas almost instantly became ignited from contact with the firebox of the thresher and Burrell, through having been enveloped in a sheet of flame, received injuries from which he subsequently died.

THE Bonham (Tex.) Gas and Electric Company is erecting a brick and concrete structure, on East Second street, to serve as housing for an enlarged power outfit.

"D," writing from Baltimore, Md., under date of July 31, incloses this: "Interesting figures concerning the accuracy of the gas meters used in Baltimore are contained in the annual report of Mr. Robert J. McCuen, Superintendent of Lamps and Lighting, for the year 1910, which has just been printed. The report states that, until August 1, last, when the work of testing gas meters was taken over by the Public Service Commission, Mr. McCuen's department inspected 21,897 meters for the Consolidated Gas, Electric Light and Power Company of Baltimore. Of this number, 18 were found to register incorrectly or were otherwise defective and were not placed in use, that being one in every 1,200. In addition to the meters tested for the Company, 55 were inspected and tested upon complaint of consumers. Of these 35 meters, 25 were found to register correctly, and 10 were found to register incorrectly. Concerning the quality of the gas and the service, Mr. McCuen reported that the illuminating power of the gas was at all times above the standard of 20 candles. One hundred and thirty-four photometric tests were made which gave an average of 20.94 candles. The maximum candle power was 23.54, in January, and the minimum was 20.00 in July. Daily reports show that a desirable pressure has been maintained throughout the city."

The Market for Gas Securities.

Untoward features, none, however, being of an important nature, caused a drop all round in the share market. Consolidated, of course, followed the lead of the railroad shares, and the result is a decline of about two points in the bid price. The Company's regular dividend of (1½ per cent.) for the past quarter shows no change in rate, for which many hoped.

Brooklyn Union also shows much sogginess, although it is an undeniable fact that the financial position of the Company would easily warrant a quotation of 200 bid. Peoples, of Chicago, is fairly steady, and there is scarcely any doubt that, by the time legal proceedings over the proposed new arbitrary rate there have been concluded, that the minimum figure now proposed will be agreeable to the proprietors. If the scheme proposed for testing the ordinance is carried out the proceedings will cover a decade. Lacledes are steady to strong. As indicative of how the gas business grows, it might be not out of place to note that the gain in output for the first half of 1911 exceeded that for the corresponding half of 1910 by 25 per cent. The Federal Light and Traction Company's dividend of 1½ per cent. on the preferred is payable the first prox., and the regular of 1¾ for the past quarter, on Peoples, of Chicago, is disbursable the 25th inst.

Gas Stocks.

Quotations by George W. Close, Broker and Dealer in Gas Stocks.

115 BROADWAY, NEW YORK CITY.

AUGUST 7.

☞ All communications will receive particular attention.

☞ The following quotations are based on the par value of $100 per share:

N. Y. City Companies.	*Capital.*	*Par.*	*Bid.*	*Asked*
Consolidated Gas Co.	$78,177,000	100	143	143¼
Central Union Gas Co. —				
1st 5's, due 1972, J. & J.	8,000,000	1,000	103	105
Equitable Gas Light Co.—				
Con. 5's, due 1932, M. & S.	1,000,000	1,000	115	118
Mutual Gas Co.	3,500,000	100	155	165
New Amsterdam Gas Co.—				
1st Con. 5's, due 1948, J. & J.	11,000,000	1,000	100	101½
New York & Richmond Gas Co. (Staten Island)	1,500,000	100	35	50
1st Mtg. Gold Bds. 5 p. ct.	1,000,000	—	98½	100½
New York and East River—				
1st 5's, due 1944, J. & J.	3,500,000	1,000	103	105
Con. 5's, due 1945, J. & J.	1,500,000	—	95	100
Northern Union—				
1st 5's, due 1927, J. & J.	1,250,000	1,000	94	100
Standard	5,000,000	100	50	70
Preferred	5,000,000	100	70	100
1st Mtg. 5's, due 1930, M. & N.	1,500,000	1,000	103	105
The Brooklyn Union	15,000,000	1,000	141½	144
1st Con. 5's, due 1948, M. & N.	15,000,000	—	106¾	107
Yonkers	299,650	500	130	—
Out-of Town Companies.				
Bay State	50,000,000	50	⅝	⅛
" Income Bonds	2,000,000	1,000	—	75
Binghampton Gas Works	450,000	100	—	—
" 1st Mtg. 5's	509,000	1,000	95	100
Boston United Gas Co.—				
1st Series S. F. Trust	7,000,000	1,000	82	85
2d " " "	3,000,000	1,000	47½	50
Buffalo City Gas Co.	5,500,000	100	5	8
Bonds, 5's	5,250,000	1,000	50	60
Capital, Sacramento	500,000	50	—	35
Bonds (6's)	150,000	1,000	—	—
Chicago Gas Co. Guaranteed Gold Bonds	7,660,000	1,000	104	106¼
Cincinnati Gas and Electric Co.	29,500,000	100	92	93
Columbus (O.) Gas Co., 1st Mortgage Bonds	1,500,000	1,000	96	98
Columbus (O.) Gas Lt. & Heating Co.	1,682,750	100	90½	91
Preferred	3,026,500	100	75½	80
Consumers, Toronto	2,000,000	50	200	204
Consolidated, Baltimore	13,460,084	100	106½	—
Mortgages, 5's	3,400,000	—	89	100
Chesapeake, 1st 6's	1,000,000	—	—	—
Equitable, 1st 6's	910,000	—	—	—
Consolidated, 1st 5's	1,490,000	—	—	112
Consolidated Gas Co. of N. J.	1,000,000	100	15	—
Con. Mtg. 5's	976,000	1,000	92	95
Bonds	75,000	—	—	100
Denver Gas and Electric	3,500,000	—	102	105
Detroit City Gas Co.	6,580,000	—	—	50
" Prior Lien 5's	5,619,000	1,000	97	100½
Detroit Gas Co., 5's	381,000	1,000	75	80
Essex and Hudson Gas Co.	6,500,000	—	39	40
Fort Wayne	2,000,000	—	—	—
" Bonds	2,000,000	—	55	—
Grand Rapids Gas Light Co., 1st Mtg. 5's	1,350,000	1,000	100	101
Hartford	750,000	25	190	200
Hudson County Gas Co., of New Jersey	10,500,000	—	112	113½
" Bonds, 5's	10,500,000	—	108	108½
Indianapolis	2,000,000	—	78	83
" Bonds, 5's	2,650,000	—	104½	105
Jackson Gas Co.	250,000	50	82	—
" 1st Mtg. 5's	290,000	1,000	97	100
Kansas City Gas Light Co., of Missouri	5,000,000	100	—	86
Bonds, 1st 5's	3,822,000	1,000	102	104
Laclede Gas Co., St. Louis.	10,000,000	100	106¼	106½
Preferred	2,500,000	100	94½	102
Bonds	10,000,000	1,000	102½	103
Lafayette Gas Co., Ind.	1,000,000	100	—	60
Bonds	1,000,000	1,000	60	65
Louisville	2,370,000	50	143	145
Madison Gas and Electric Co.				
" 1st Mtg. 6's	400,000	1,000	108	108½
Massachusetts Gas Companies, of Boston	25,000,000	100	96⅛	96¼
Preferred	25,000,000	100	97	97¾
Montreal Gas Co., Canada	2,000,000	100	218	218¼
Nashville Gas Light Co.	1,000,000	100	110	—
Newark, N. J., Con. Gas Co.	6,000,000	—	56	58
Bonds, 6's	6,000,000	—	137	138
New Haven Gas Co.	2,000,000	25	200	—
Peoples Gas Lt. & Coke Co., Chicago	25,000,000	100	104½	104¾
1st Mortgage	20,100,000	1,000	—	—
2d "	2,500,000	1,000	104	—
Rochester Gas & Electric Co.	2,150,000	50	88	—
Preferred	2,150,000	50	118	—
Consolidated 5's	2,000,000	—	104½	105½
San Francisco Gas Co., Cal.	15,500,000	—	—	—
St. Joseph Gas Co.—				
1st Mtg. 5's	1,000,000	1,000	100	102
St. Paul Gas Light Co.	2,500,000	100	—	—
1st Mortgages, 6's	650,000	1,000	104	108
Extension, 6's	600,000	1,000	112½	115
General Mortgage, 5's	3,447,000	1,000	97	98
Syracuse Gas Co., N. Y.	1,975,000	100	50	55
Bonds	2,047,000	1,000	101	103
Washington (D. C.) Gas Co.	1,600,000	200	442	444
1st Mortgage, 6's	600,000	—	—	—
Western Gas Co., Milwaukee	4,000,000	—	—	—
Wilmington (Del.) Gas Co.	600,000	50	361	—

MEETING TIMES OF THE VARIOUS GAS ASSOCIATIONS.

American Gas Institute.—Annual meeting, October 18, 19, 20, 21, 1911. St. Louis, Mo. Officers: President, Donald McDonald, Louisville, Ky. Secretary, A. B. Beadle, 29 West 39th st., N. Y. City.

Canadian Gas Association.—Annual meeting, ———— Officers President, Arthur Hewitt, Toronto, Ont.; Secretary and Treasurer, John Keilior, Hamilton, Ont.

Empire State Gas and Electric Association.—Annual meeting, Nov., 1911. New York City. Officers: President, M. J. Brayton, Utica, N. Y.; Secretary, C. H. B. Chapin, 29 W. 39th street. New York City.

Guild of Gas Managers of New England.—Annual meeting, March, 1912. Young's Hotel, Boston; monthly meeting, second Saturday. Officers: President, Walter G. Africa, Manchester, N. H.; Secretary, H. K. Morrison, Brockton, Mass.

Illinois Gas Association.—Annual meeting, time, March, 1912, Chicago, Ills. Officers: President, C. B. Strohn, Elgin, Ills.; Secretary-Treasurer, F. E. Newberry, Dixon, Ills.

Illuminating Engineering Society.—Annual meeting, Sept. 25, 26, 27, 1911, Chicago, Ills. Meetings of Sections, monthly. Pres't, A. E. Kennelly, Boston, Mass.; Secretary, Preston S. Millar, 29 W. 39th street, N. Y. City. Sections: New York, Secretary, Albert J. Marshall, 36 West 39th street. New England, Secretary, W. S. Farrow, 1200 Massachusetts avenue, Cambridge, Mass. Philadelphia, Secretary, S. B. Eichengreen, Broad and Arch streets. Chicago, Secretary, F. H. Bernhard, Marquette Building.

Indiana Gas Association.—Annual meeting, Jan. 17 and 18, 1912, Indianapolis. Officers: President, S. E. Mulholland, Fort Wayne; Vice-President, Howard L. Olds, Indianapolis; Secretary-Treasurer, Philmer Eves, Indianapolis.

Iowa District Gas Association.—Annual meeting, time, May, ——, 1912; Clinton, Ia. Officers: President, G. W. Clabaugh, Omaha, Neb.; Secretary and Treasurer, G. I. Vincent, Des Moines, Ia.

Kansas Gas, Water and Electric Light Association.—Annual meeting, time, ———— Wichita, Kas. Officers: President, W. A. Scothorn, Hutchinson, Kas.; Secretary and Treasurer, J. D. Nicholson, Newton, Kas.

Michigan Gas Association.—Annual meeting, time, Sept. 20, 21, 22, 1911; Detroit, Mich. Officers: President, A. P. Ewing, Detroit, Mich.; Secretary-Treasurer, Glenn R. Chamberlain, Grand Rapids, Mich.

Missouri Electric Light, Gas, Water Works and Street Railway Association.—Annual meeting, April, 1912; St. Louis, Mo. Officers: President, F. E. Murray, Louisiana, Mo.; Secretary and Treasurer, N. J. Cunningham, Springfield, Mo.

National Commercial Gas Association.—Annual meeting, October 23-28, 1911. Denver, Officers: President, C. N. Stannard, Denver; Secretary, Louis Stotz, 29 West 39th street, New York City.

Natural Gas Association.—Annual meeting, May, 1912, Kansas City, Mo.; Officers: President, A. B. Macbeth, Independence, Kas. Secretary, T. C. Jones, Delaware, O.

New England Gas Association.—Annual meeting, third Wednesday in February, 1912; Boston. Officers: President, J. A. Coffin, Gloucester, Mass.; Secretary-Treasurer, N. W. Gifford, East Boston, Mass.

New Jersey State Gas Association.—President, William H. Pettes, Newark, N. J.; Secretary-Treasurer, Arthur H. Osborn, Belmar, N. J.

Ohio Gas Association.—Annual meeting, February 6 and 7, 1912, Columbus, O.; President, John M. Garard, Columbus, O.; Secretary-Treasurer, T. C. Jones, Delaware, O.

Pacific Coast Gas Association.—Annual meeting, Sept. 20, 21 and 22, 1911, Oakland, Cal. Officers: President, F. A. Leach, Jr., Oakland, Cal.; Vice President, W. Baurhyte, Los Angeles, Cal.; Secretary-Treasurer, John A. Britton, 445 Sutter street, San Francisco, Cal.

Pennsylvania Gas Association.—Annual meeting, April, 1912, Williamsport, Pa. Officers President, C. W. Butterworth, Milton, Pa; Secretary-Treasurer, William H. Merritt, Lebanon, Pa.

Society of Gas Lighting.—Annual meeting, December, 1911; monthly meeting, second Thursday. Place, New York City. Officers: President, Fred. S. Benson; Secretary, George G. Ramsdell, 254 West 89th street, New York city.

Southern Gas Association.—Annual meeting, April, 1912, Jacksonville, Fla. Officers: President, H. B. Hoyt, Jacksonville, Fla.; Secretary-Treasurer, E. D. Brewer, Atlanta, Ga.

Southwestern Electrical and Gas Association.—Annual meeting. April 27, 28, 29, 1912; Houston, Tex. Officers: President, J. E. Carroll, Beaumont, Tex.; Secretary, D. G. Fisher, Dallas, Tex.

Wisconsin Gas Association.—Annual meeting, May 15 and 16, 1912, Milwaukee, Wis. Officers: President, H. M. Buck, Waukesha, Wis.; Secretary-Treasurer, Henry Harmon, Milwaukee, Wis.